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Han

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(54) **HIGH VOLTAGE JUNCTION FIELD EFFECT TRANSISTOR**

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See application file for complete search history.

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(57) **ABSTRACT**

The present invention discloses a high voltage JFET. The high voltage JFET includes a second conductivity type drift region located on the first conductivity type epitaxial layer; a second conductivity type drain heavily doped region located in the second conductivity type drift region; a drain terminal oxygen region located on the second conductivity type drift region and at a side of the second conductivity type drain heavily doped region; a first conductivity type well region located at a side of the second conductivity type drift region; a second conductivity type source heavily doped region and a first conductivity type gate heavily doped region located on the first conductivity type well region, and a gate source terminal oxygen region; a second conductivity type channel layer located between the second conductivity type source heavily doped region and the second conductivity type drift region; a dielectric layer and a field electrode plate located on the second conductivity type channel layer. Wherein a drain electrode electrically is led out from the second conductivity type drain heavily doped region; a
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